

## SPECIFICATIONS

### Power Amplifier Section

#### Power Output

80 watts\* per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.09% total harmonic distortion

#### Both Channels Driven into

8 ohms at 1,000 Hz	85 W + 85 W (Except U.S.A., Europe and U.K.)
4 ohms at 1,000 Hz	78 W + 78 W (Except U.S.A., Europe and U.K.)

Music Power Output (8 ohms)	145 W + 145 W (Except U.S.A., Europe and U.K.)
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#### Total Harmonic Distortion

AUX → SPKR (8 Ω)/ Power in → SPKR (8 Ω)  
(20 Hz to 20,000 Hz)

At Rated Output . . . . . 0.09%

At 1/2 Rated Output . . . . . 0.05%

(1,000 Hz)

At 1/2 Rated Output . . . . . 0.005%

Phono → SPKR (8 Ω)/ At -20 dB Volume Level  
(1,000 Hz)

At Rated Output . . . . . 0.04%

#### Intermodulation Distortion (60 Hz : 7,000 Hz = 4 : 1)

At Rated Output . . . . . 0.02% into 8 ohms

#### Damping Factor . . . . . 30 (50 Hz)

#### Frequency Response

Overall (AUX → SPKR) . . . . . 10 Hz to 70,000 Hz,  
+0 dB, -3 dB

#### Phono "RIAA" Response

(Phono → REC out) . . . . . 30 Hz to 20 Hz, ±0.5 dB

Power Bandwidth . . . . . 10 Hz to 50,000 Hz  
0.2% T.H.D. 8 ohms

#### Input Sensitivity/Impedance

Phono MM . . . . . 2.5 mV/ 47 k ohms

Tuner, AUX., Tape Play . . . . . 150 mV/ 33 k ohms

#### Signal-to-Noise Ratio (IHF-A)

Phono MM . . . . . 75 dB at 2.5 mV

Phono MM . . . . . 81 dB at 5.0 mV

Tuner, AUX., Tape Play . . . . . 100 dB

#### Phono Maximum Input Level

MM . . . . . 150 mV (Phono to Tape  
REC), 0.05% T.H.D.  
at 1,000 Hz

#### Output Level/Impedance

Tape REC (Pin) . . . . . 150 mV/ 330 ohms

#### Tone Control

60 Hz, 150 Hz, 400 Hz, 1,000 Hz, 2,400 Hz,  
6,000 Hz, 15,000 Hz . . . . . ±10 dB

#### Filter

Subsonic . . . . . 60 Hz, 6 dB/ oct

#### Loudness Control

At -30 dB Volume Level . . . . . +8 dB at 100 Hz

#### General

Power Supply Voltage, Frequency . . . 120 V, 60 Hz (U.S.A. and  
Canada models), 220 V,  
50 Hz (Europe model),  
240 V, 50 Hz (U.K.  
model), 110 ~ 120 V/220  
~ 240 V, 50/ 60 Hz  
(Other countries)

Power Consumption . . . . . 2.5 A (U.S.A. and Canada  
models), 170 W (Other  
countries)

#### AC Outlet

Switched . . . . . 100 W

Unswitched . . . . . 100 W

#### Dimensions . . . . . W 420 mm

H 109 mm

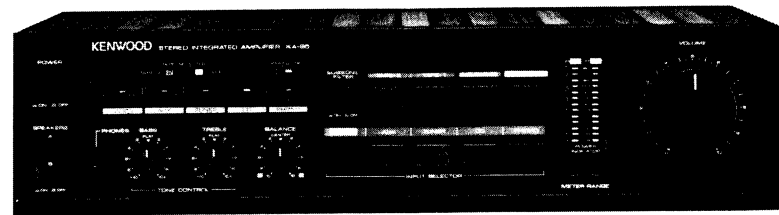
D 282 mm

#### Weight

Net . . . . . 6.6 kg

Gross . . . . . 7.4 kg

\*Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.



## SPECIFICATION

(IHF'66)

Except European and U.K. Models

### Power Amplifier Section

#### Rated Power Output

125 watts per channel minimum RMS, both channels driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.05% total harmonic distortion

Both Channels Driven into 8 ohms at 1 kHz ..... 125 W + 125 W (Except USA, Europe and U.K.)

#### Total Harmonic Distortion (AUX - SPKR 8 Ω)

at Rated Output, 20 Hz ~ 20,000 Hz ..... 0.05%  
at 1/2 Rated Output, 20 Hz ~ 20,000 Hz ..... 0.02%  
at 1/2 Rated Output, 1 kHz ..... 0.007%

#### (PHONO - SPKR 8 Ω : at -20 dB VOLUME Level)

at Rated Output, 1 kHz ..... 0.02%

#### Intermodulation Distortion

(60 Hz:7 kHz = 4:1) ..... 0.02% at rated power  
into 8 ohms

Damping Factor ..... 20 (1,000 Hz into 8 ohms)

Frequency Response ..... 10 Hz to 100 kHz,

+0 dB, -3 dB

#### Input Sensitivity/Impedance

Phono MM ..... 2.5 mV/47 k ohms

TUNER, AUX., TAPE PLAY ..... 150 mV/33 k ohms

#### Signal-to-Noise Ratio (IHF-A)

Phono MM ..... 73 dB for 2.5 mV input

Phono MM ..... 79 dB for 5.0 mV input

TUNER, AUX., TAPE PLAY ..... 100 dB

Maximum Input Level for Phono MM ..... 140 mV (RMS), T.H.D. 0.05% at 1 kHz

#### Output Level/Impedance

TAPE REC (Pin) ..... 150 mV/3.3 k ohms

Frequency Response for Phono ..... RIAA standard curve  $\pm 0.3$  dB  
(30 Hz to 20,000 Hz)

#### Tone Control

Bass .....  $\pm 10$  dB at 100 Hz

Treble .....  $\pm 8$  dB at 10 kHz

Loudness Control (at -30 dB VOLUME Level) ..... +8 dB at 100 Hz

Subsonic Filter ..... 18 Hz, 6 dB/oct.

#### General

Power Consumption ..... 4.1 A (USA and Canada : UL and CSA)

230 W (Others)

AC Outlets ..... Switched 2, Unswitched 1

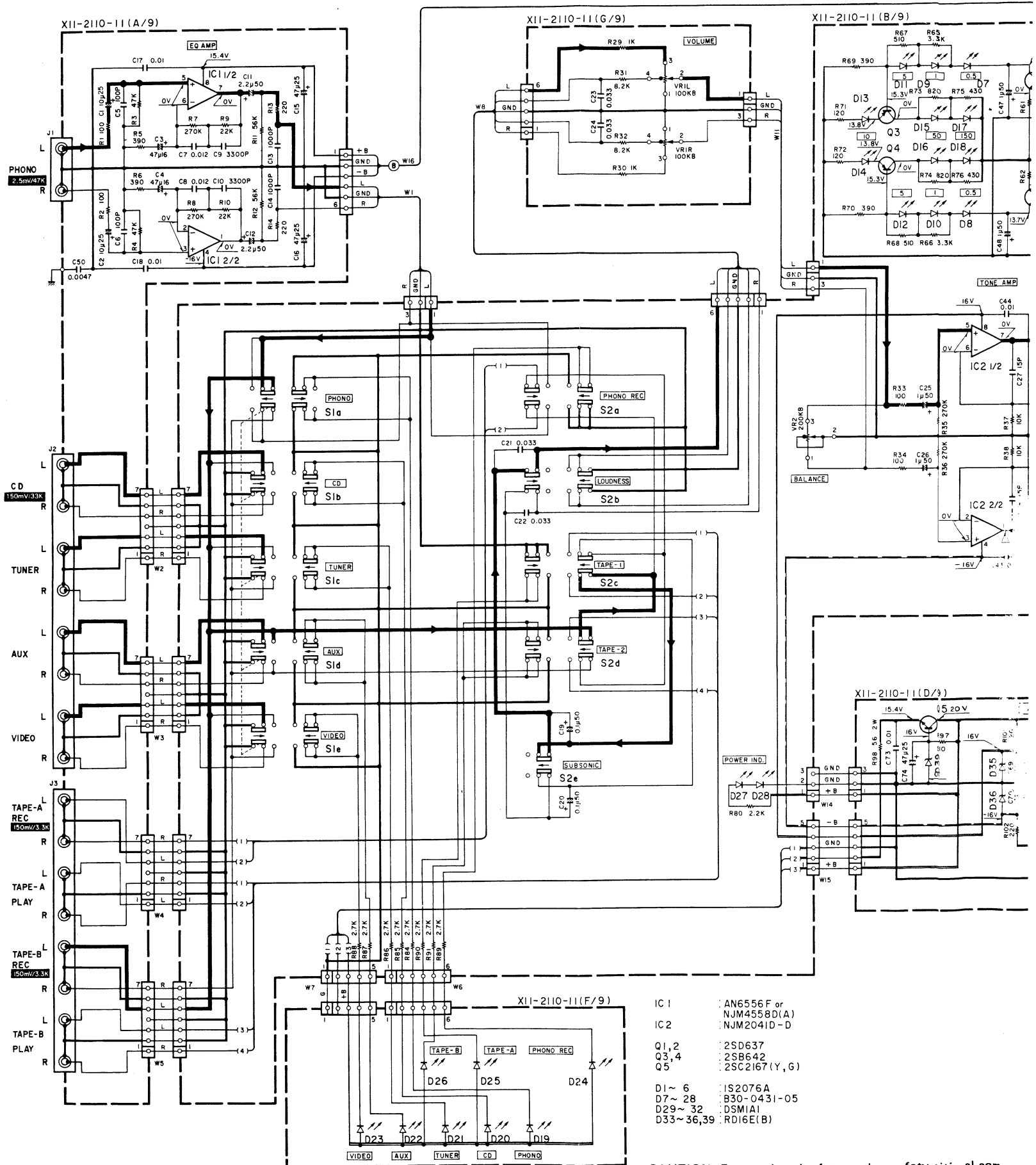
(Except some countries)


Dimensions ..... W: 420 mm (16-9/16")

H: 109 mm (4-5/16")

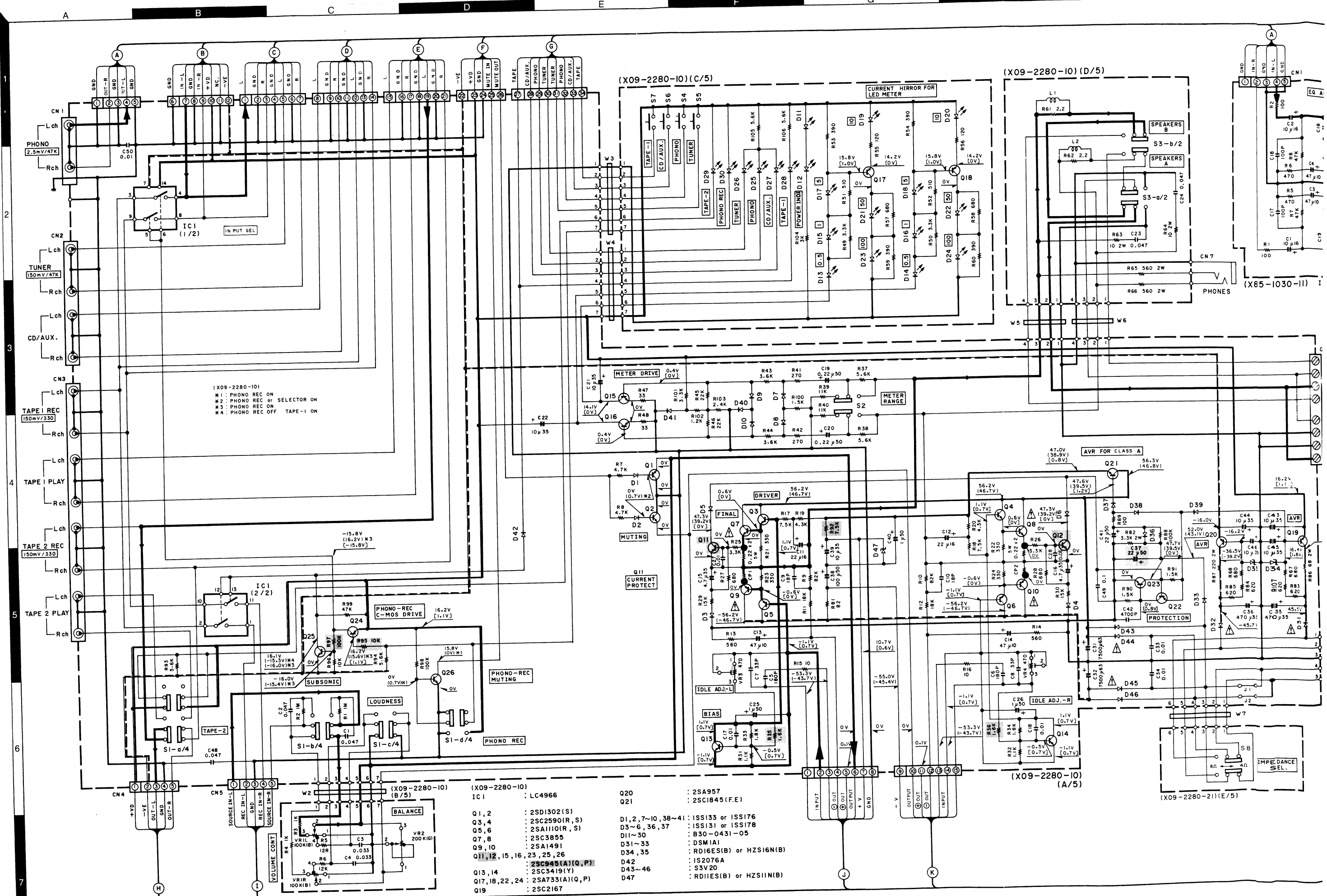
D: 280 mm (11")

Weight (Net) ..... 8.5 kg (18.7 lb)



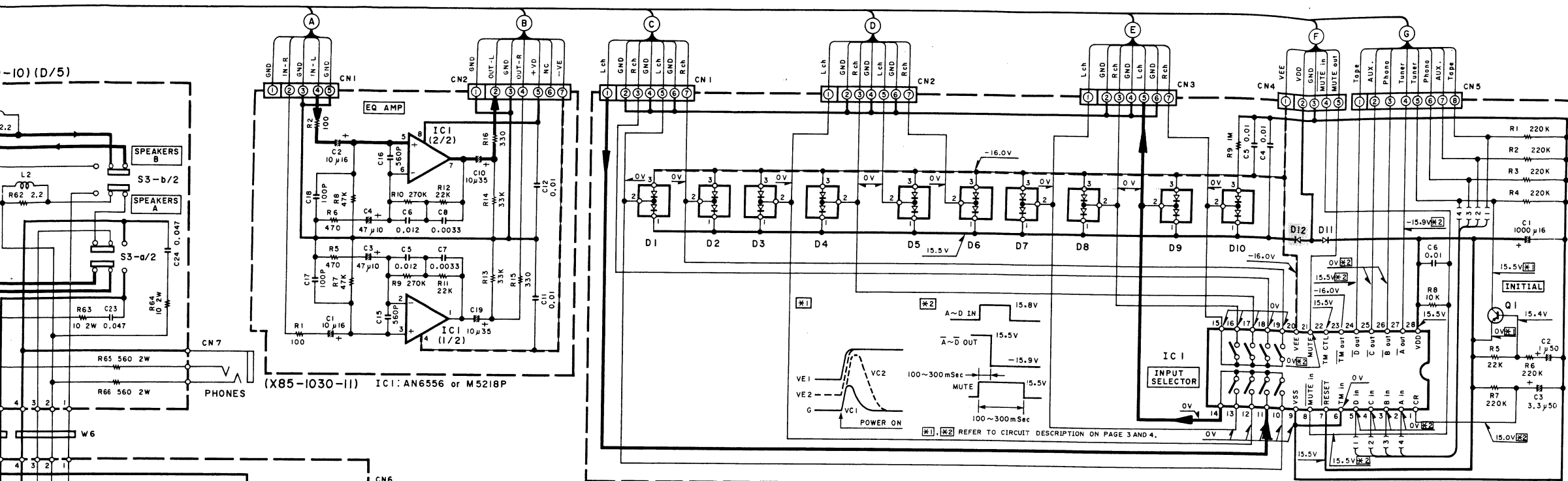
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance



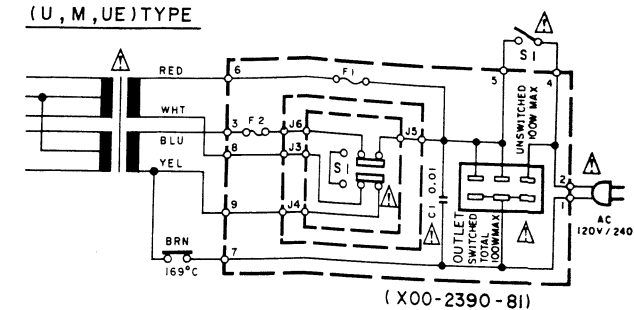


- (X09-2280-10) (C/5)
- IC1 : LC4966
- Q1,2 : 2SD1302(S)
- Q3,4 : 2SC2590(R, S)
- Q5,6 : 2SA1110(R, S)
- Q7,8 : 2SC3855
- Q9,10 : 2SA1491
- Q11,12,15,16,23,25,26 : 2SC945(A)(Q,P)
- Q13,14 : 2SC3419(Y)
- Q17,18,22,24 : 2SA733(A)(Q,P)
- Q19 : 2SC2167
- Q20 : 2SA957
- Q21 : 2SC1845(F,E)
- D1,2,7~10,38~41 : 1SS133 or 1SS176
- D3~6,36,37 : 1SS131 or 1SS178
- D11~30 : B30-0431-05
- D31~33 : DSM1A1
- D34,35 : RD16ES(B) or HZS16N(B)
- D42 : IS2076A
- D43~46 : S3V20
- D47 : RD11ES(B) or HZS11N(B)
- (X09-2280-10) (D/5)
- (X09-2280-10) (A/5)
- (X09-2280-21) (E/5)

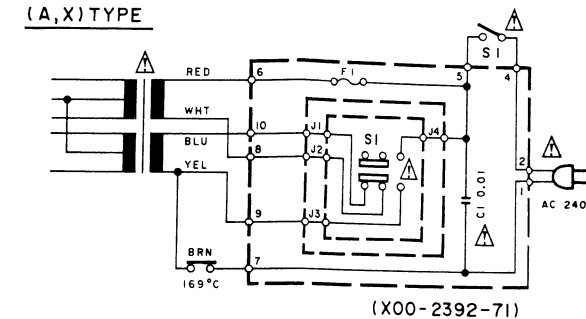
(10) (D/5)



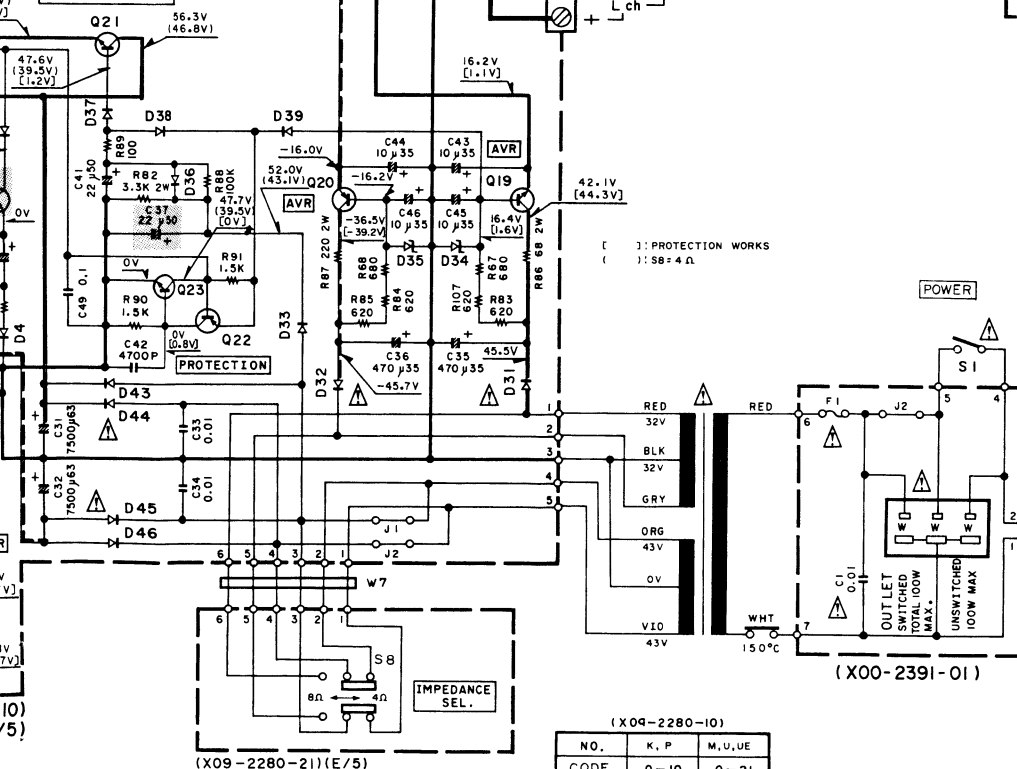
(U,M,UE) TYPE



(A,X) TYPE

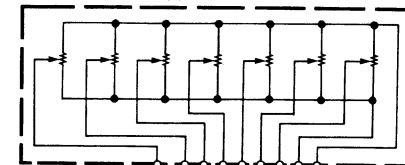


AVR FOR CLASS A

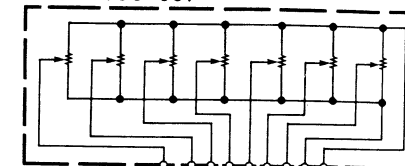


NO.	K, P	M, U, UE
CODE	0-10	0-21
J1, 2	YES	NO
W7	NO	YES
S8	NO	YES

(R29-5006-05)



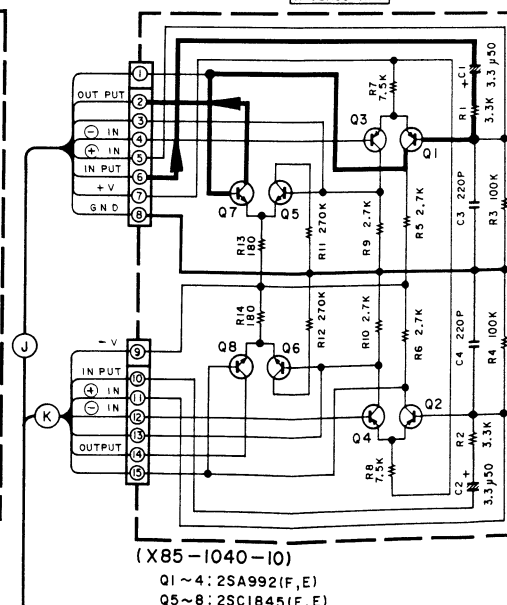
(R29-5006-05)



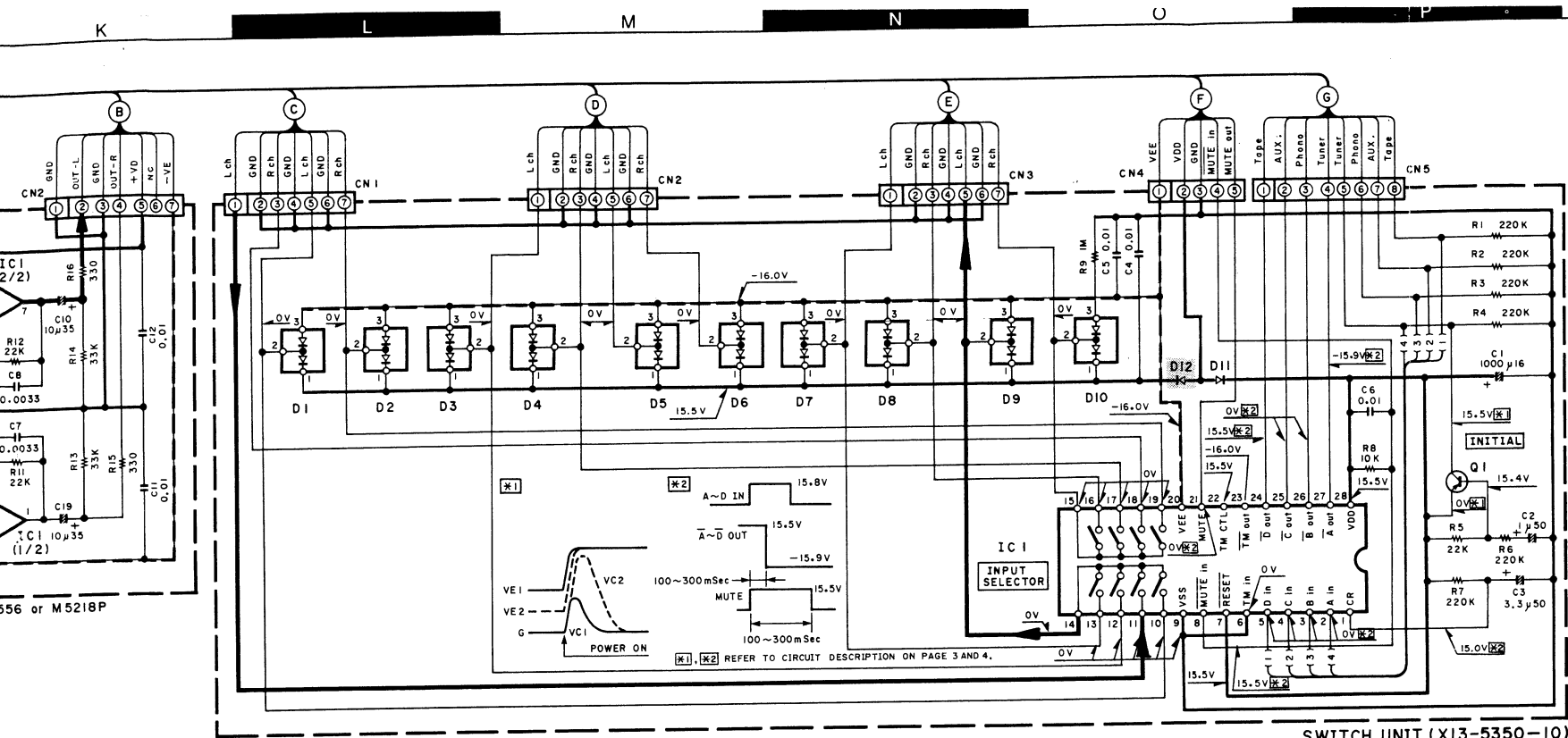
TONE UNIT (X11-2250-10) IC1, 2: M5229P

Change (X09-2280-10) C37 = 22μ50 → 4.7μ63 (NP) R35,36 = 1.6K → 1.3K R92 = 7.5K → 3.3K R95 = 10K → 1K R97 = 100K → 10K Q1,12 = 2SC945 (A,K,P) → 2SC1845 (F,E)

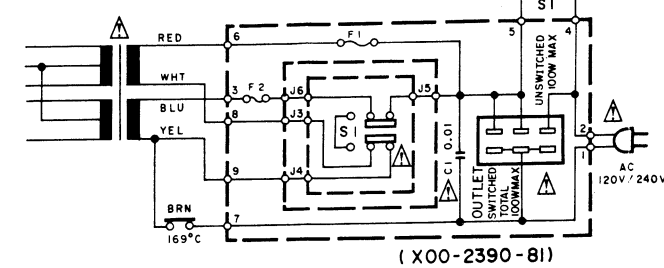
CLASS AMP



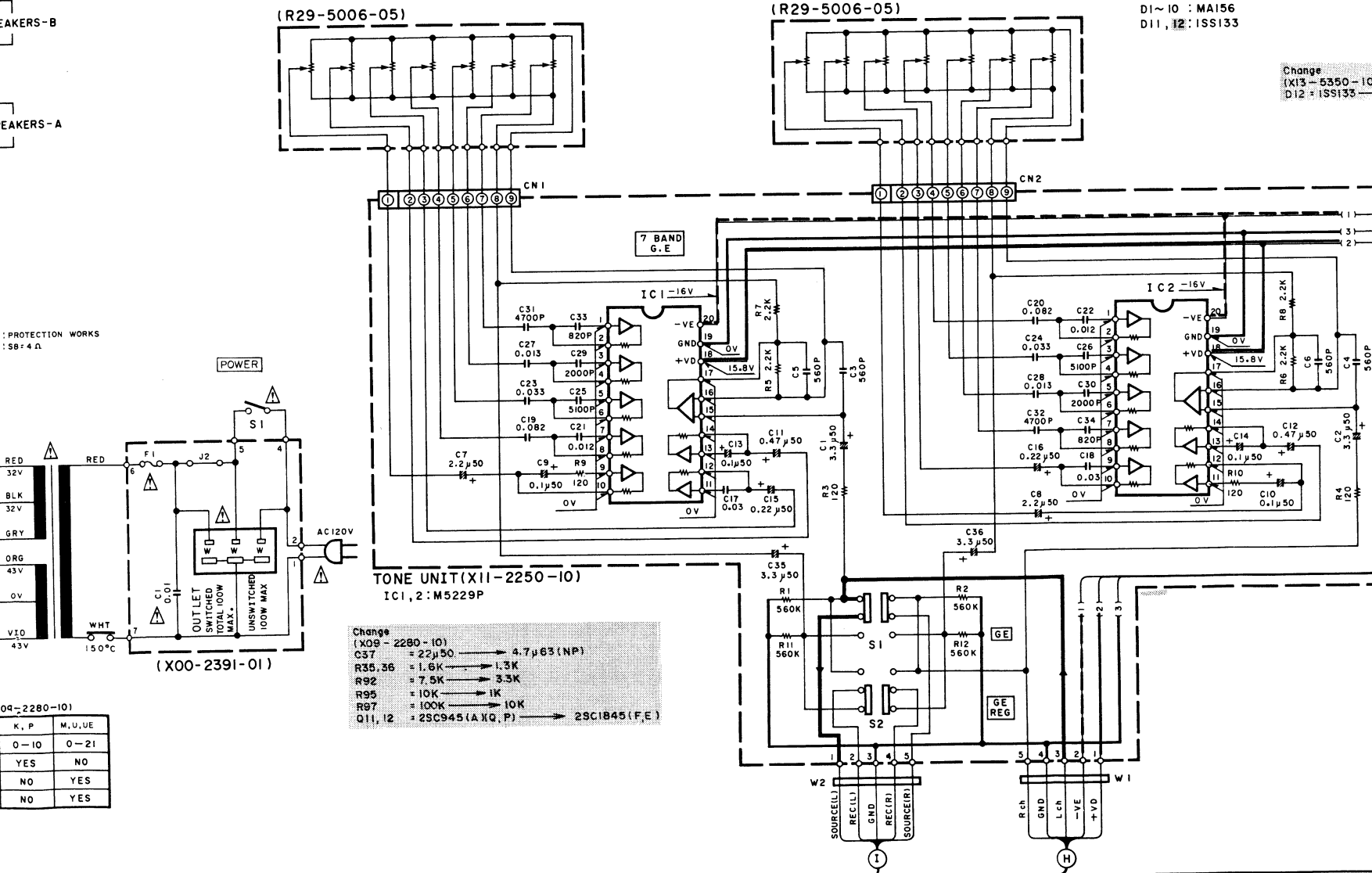
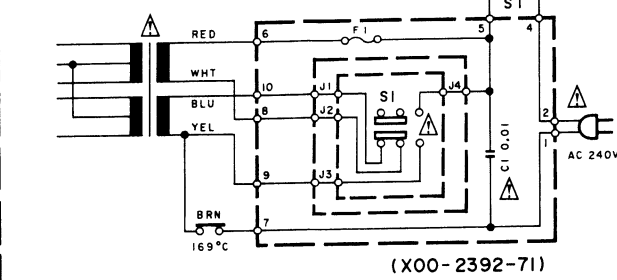




(U, M, UE) TYPE



(A, X) TYPE



2SA733(A) 2SC945(A)  
 2SA992 2SD1302  
 2SC1845

2SA1110  
 2SC2590

2SA957  
 2SC2167

2SA1491  
 2SC3855

2SC3419

M5229P

AN6556  
 M5218P

LC7816

LC4966

**CAUTION :** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

• DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.